This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

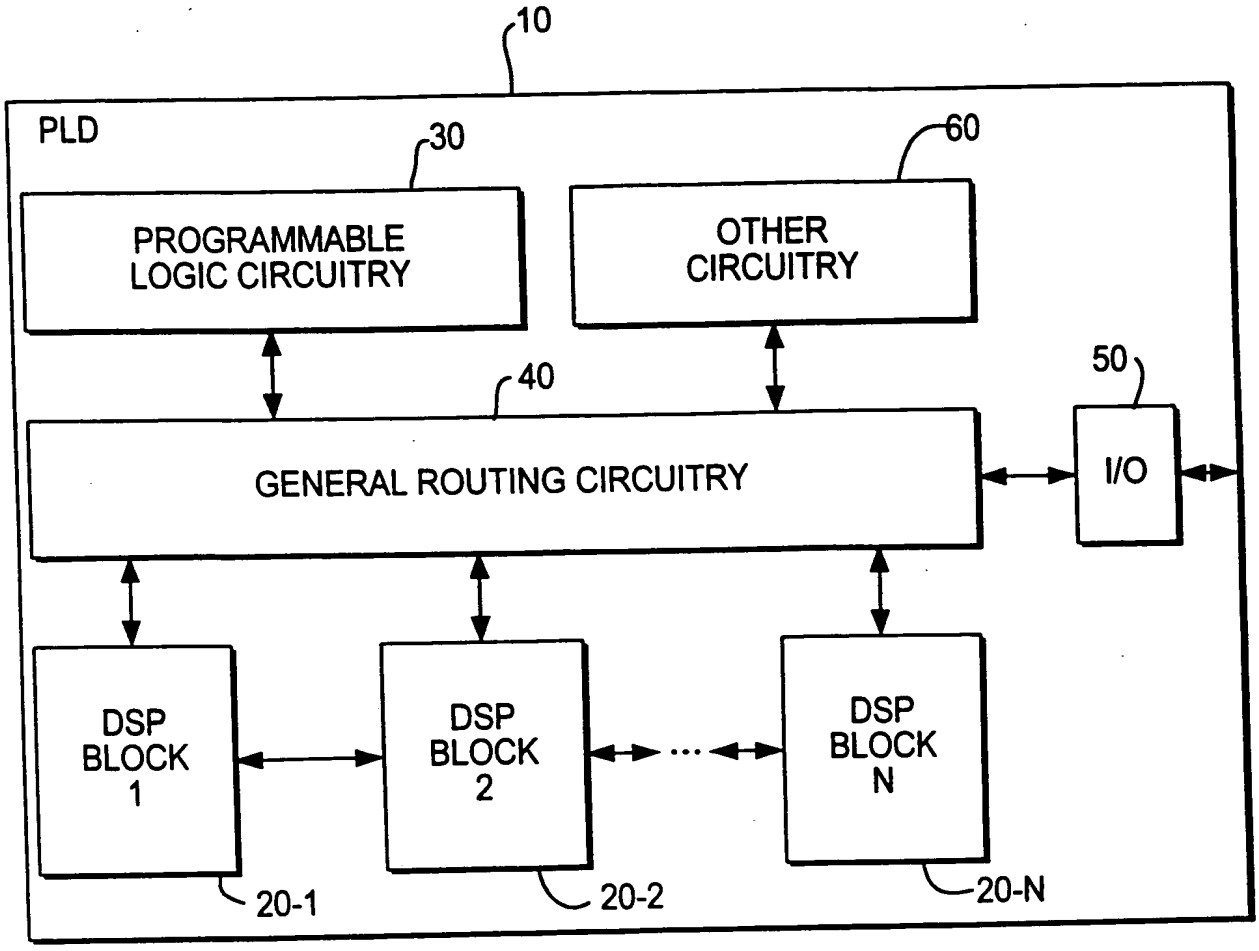
10
PLD
30
60
PROGRAMMABLE LOGIC CIRCUITRY
OTHER CIRCUITRY
40
50
GENERAL ROUTING CIRCUITRY
I/O
DSP BLOCK 1
DSP BLOCK 2
DSP BLOCK N
20-1
20-2
20-N

FIG. 1

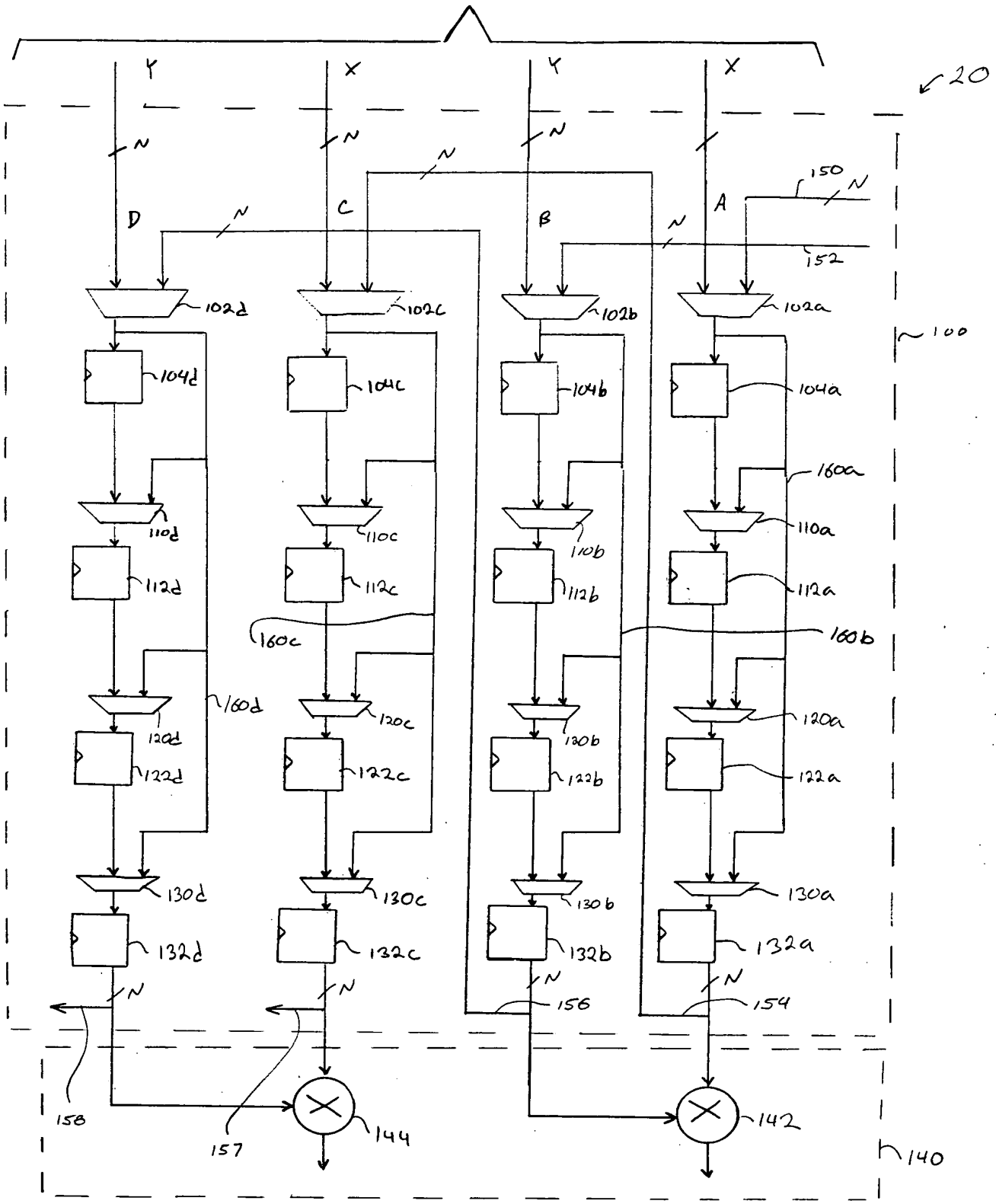
FROM GENERAL ROUTING CIRCUITRY 40
20
Y
X
Y
X
N
D
C
B
A
150
152
102d
102c
102b
102a
100
104d
104c
104b
104a
160a
110d
110c
110b
110a
112d
112c
112b
112a
160c
160b
160d
120d
120c
120b
120a
122d
122c
122b
122a
130d
130c
130b
130a
132d
132c
132b
132a
156
154
158
157
144
142
140

FIG. 2

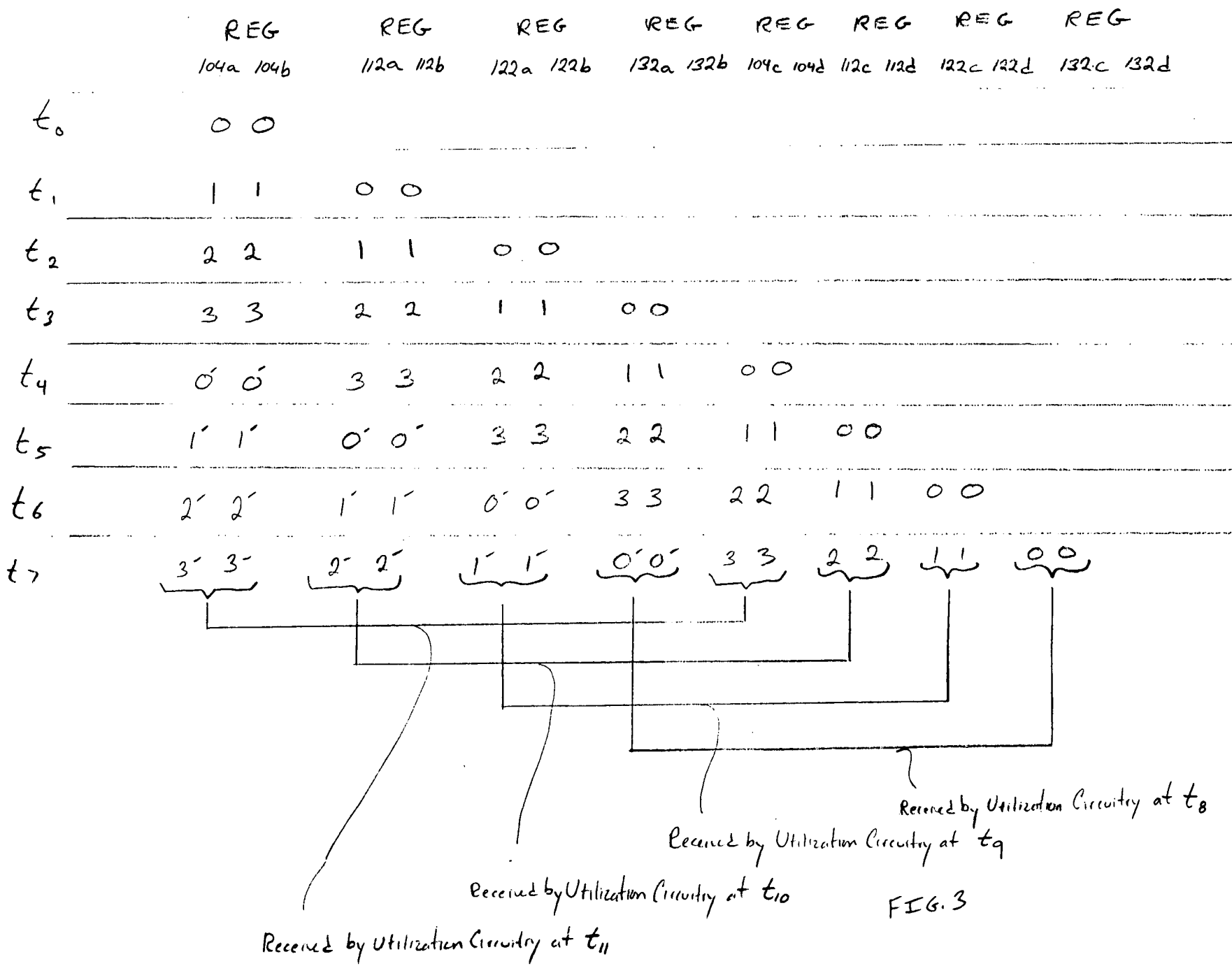
REG 104a 104b
REG 112a 112b
REG 122a 122b
REG 132a 132b
REG 104c 104d
REG 112c 112d
REG 122c 122d
REG 132c 132d
t_0 0 0
t_1 1 1 0 0
t_2 2 2 1 1 0 0
t_3 3 3 2 2 1 1 0 0
t_4 0' 0' 3 3 2 2 1 1 0 0
t_5 1' 1' 0' 0' 3 3 2 2 1 1 0 0
t_6 2' 2' 1' 1' 0' 0' 3 3 2 2 1 1 0 0
t_7 3' 3' 2' 2' 1' 1' 0' 0' 3 3 2 2 1 1 0 0
Received by Utilization Circuitry at t_8
Received by Utilization Circuitry at t_9
Received by Utilization Circuitry at t_{10}
Received by Utilization Circuitry at t_{11}

FIG. 3

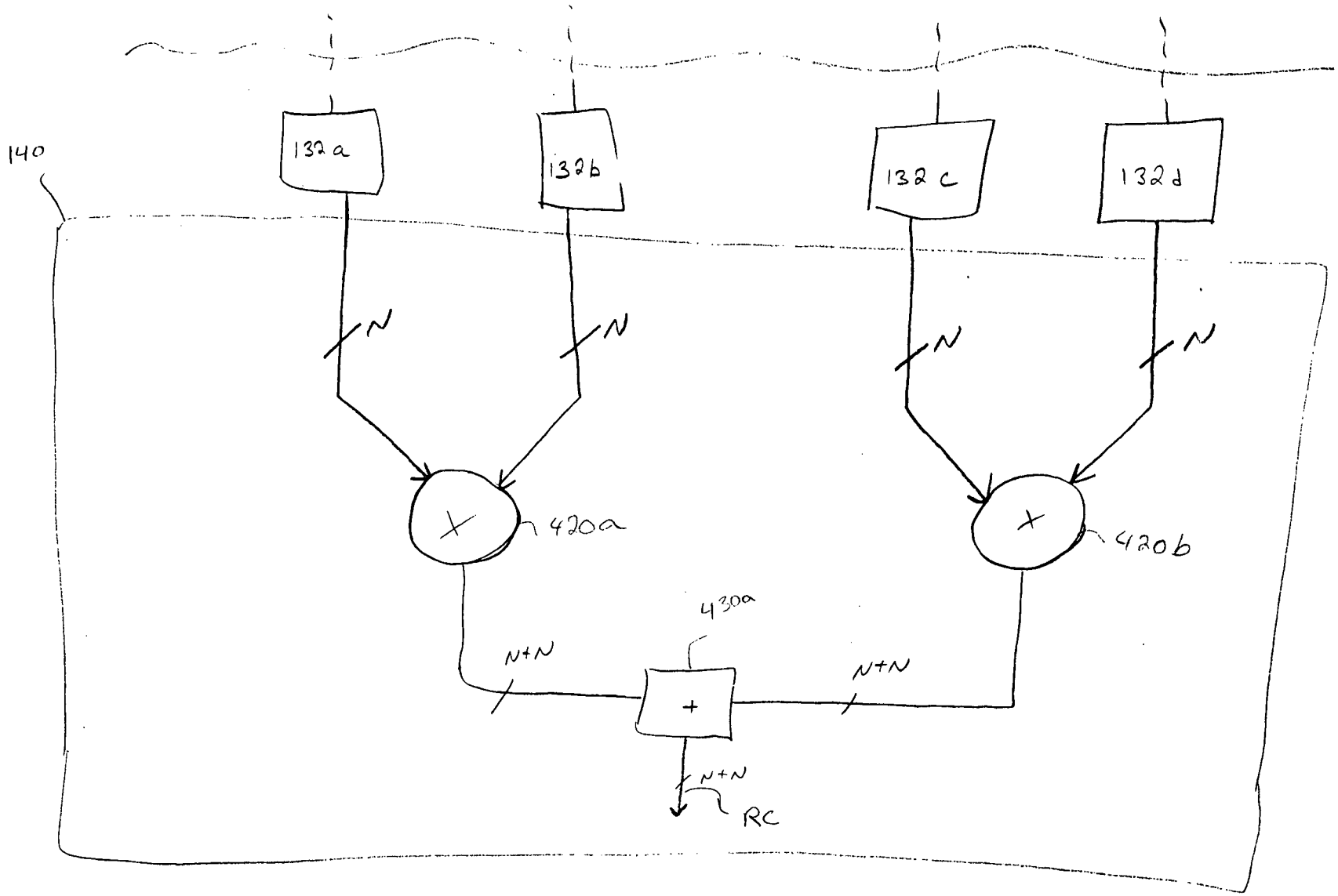

FIG. 4

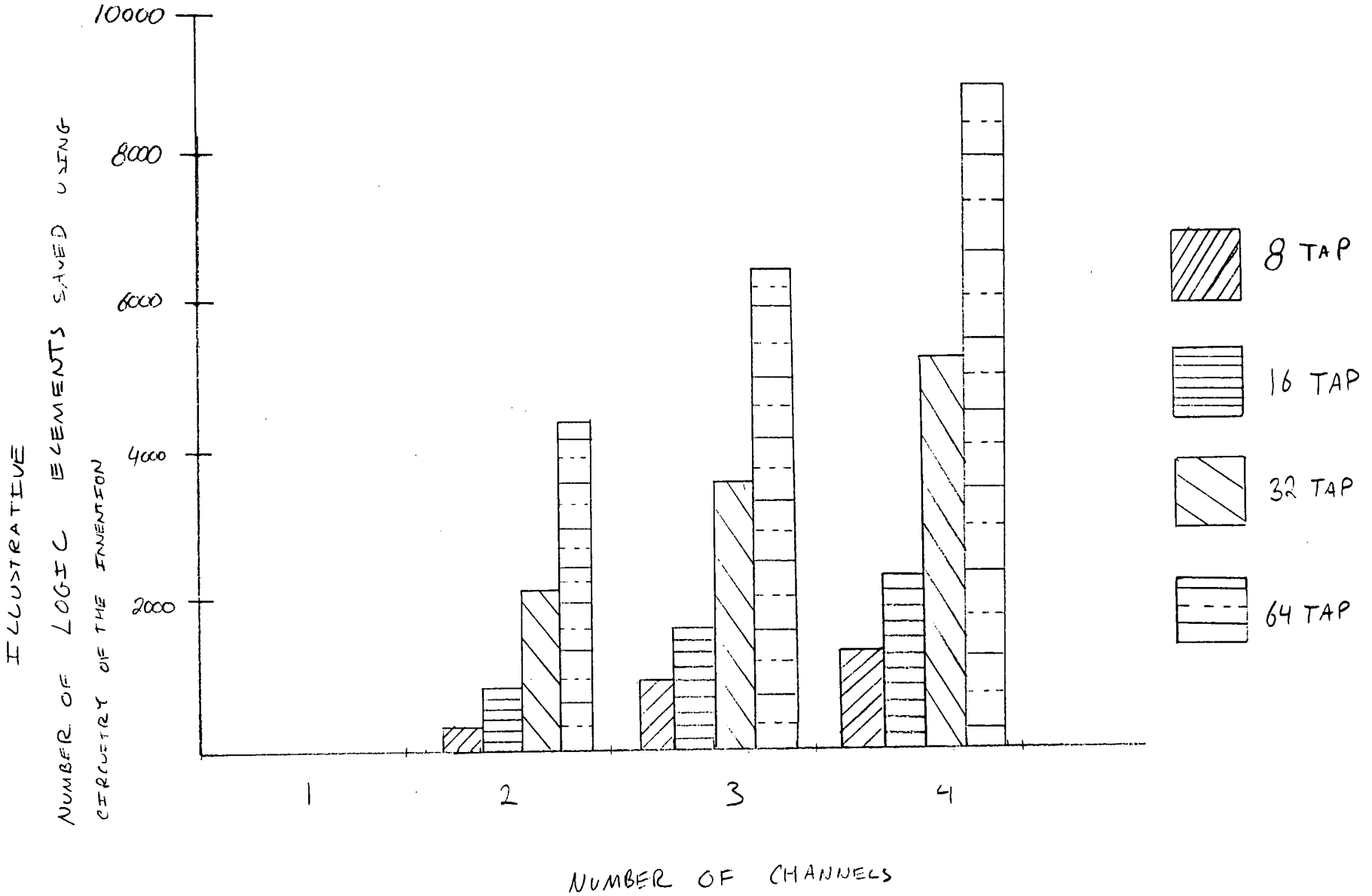
ILLUSTRATIVE
NUMBER OF LOGIC ELEMENTS SAVED USING
CIRCUITRY OF THE INVENTION
10000
8000
6000
4000
2000
1
2
3
4
NUMBER OF CHANNELS
8 TAP
16 TAP
32 TAP
64 TAP

FIG. 5

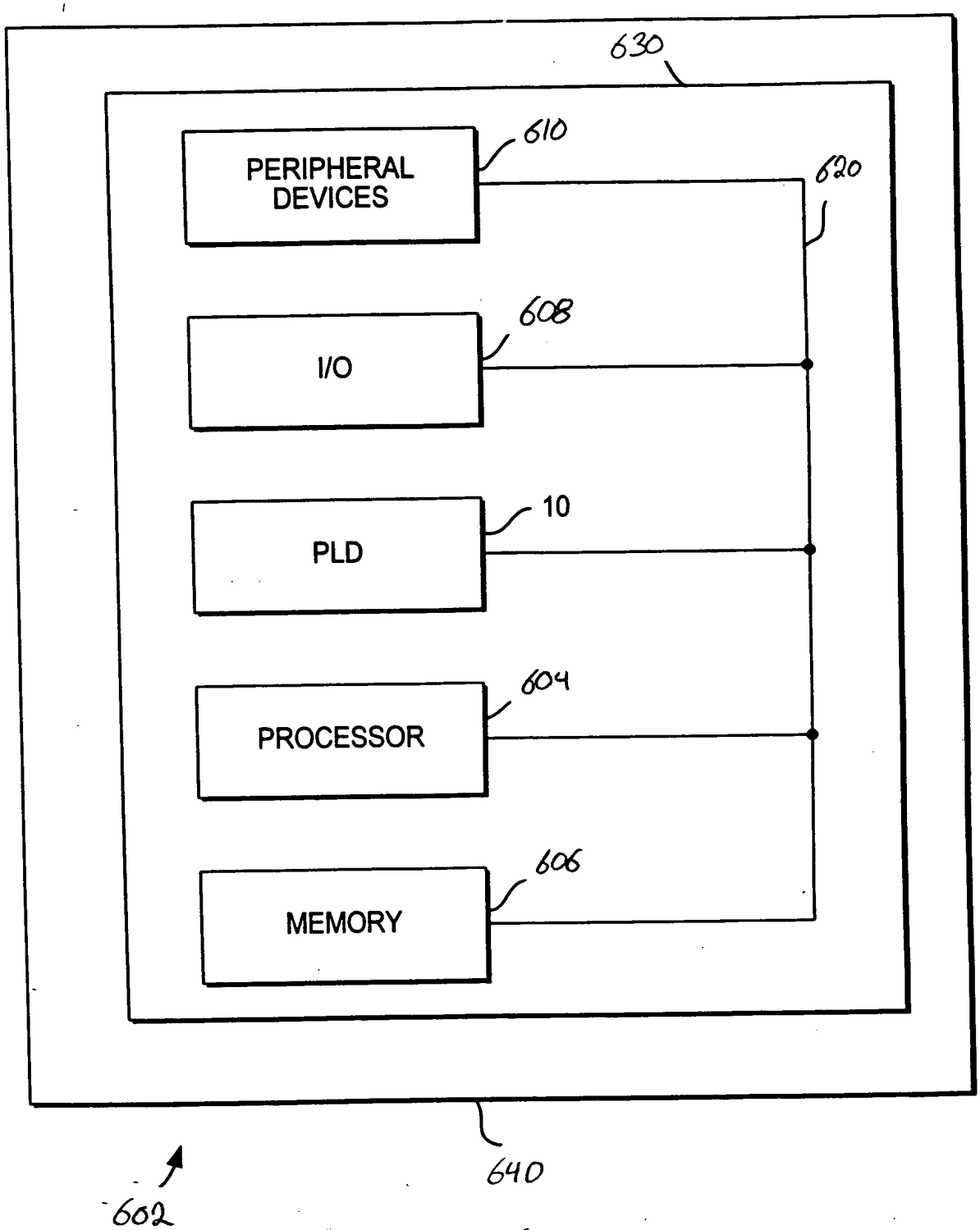
630
610
PERIPHERAL DEVICES
620
608
I/O
10
PLD
604
PROCESSOR
606
MEMORY
640
602

FIG. 6